

# the Pennsylvania Rifle

Although known for years as the "Kentucky Rifle", the celebrated long rifle of muzzle-loading days was developed in Lancaster County, Pa., &

built chiefly in the shops of such Pennsylvania gunmakers as the Henrys, John Armstrong, Mathew Roesser, N. Beyer, the Lemans, D. Cooley, Henry Koons, John Moll, the Dreppards, Philip Lefevre, the Zorgers & others...

The barrels were forged from iron bars in charcoal fires, and were rifled on primitive wooden rifling machines...

Early locks were entirely hand-made—down to the smallest screws, springs & pins...

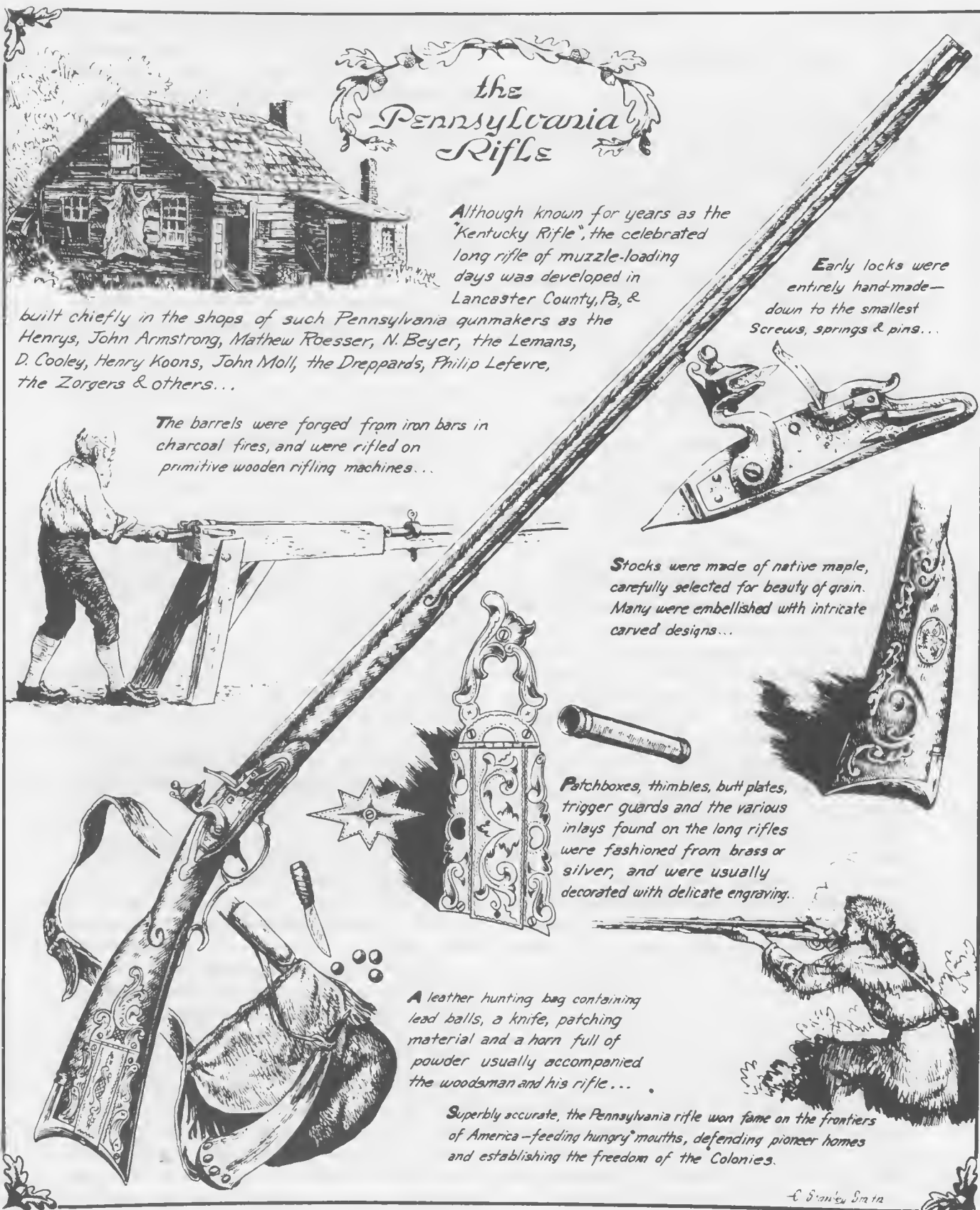
Stocks were made of native maple, carefully selected for beauty of grain. Many were embellished with intricate carved designs...

Patchboxes, thimbles, butt plates, trigger guards and the various inlays found on the long rifles were fashioned from brass or silver, and were usually decorated with delicate engraving.

A leather hunting bag containing lead balls, a knife, patching material and a horn full of powder usually accompanied the woodsman and his rifle...

Superbly accurate, the Pennsylvania rifle won fame on the frontiers of America—feeding hungry mouths, defending pioneer homes and establishing the freedom of the Colonies.

—C. S. Smith



## The Pennsylvania Rifle

ON A PEQUEA Valley farm in the Mennonite region of southern Lancaster County stands a small, sturdy structure built of rough fieldstone. This is the workshop of Martin Meylin, a Swiss gunsmith whose pioneer work within this crude structure during the early 1700's marked the appearance of a new type of firearm, the Pennsylvania rifle.

Two centuries and more ago when most of Pennsylvania was primitive woodland, settlers placed chief reliance upon their rifles for sustenance, security, and survival. With it the frontiersman provided meat for the table, furs and skins for trade, and protection for his family. In the hands of the "Tomahawks" — expert marksmen — it helped win several decisive engagements in the War for Independence and rendered similar service in the War of 1812. Westward beyond the mountains, across the broad river valleys, and out onto the plains, it was carried by trader, trapper, Indian fighter, hunter, prospector, and settler. The story of the Pennsylvania rifle is a good illustration of America's debt to Europe for a germinal idea, but in the evolution and application of the idea there is impressive demonstration of ingenuity by the early settlers and adaptiveness to conditions encountered in the New World. The role of the rifle in American history soon becomes evident as the story of independence, expansion, and exploitation unfolds.

Before the heavy migrations from the Continent began in the opening decades of the eighteenth century, the firearm in general use in colonial America was the English smooth-bore musket. Among the numerous German and Swiss immigrants coming into Penn's colony were craftsmen such as Meylin who were skilled in the making of the Jaeger, a short, heavy hunting rifle, and the Swiss mountain rifle, a lighter, longer firearm. The distinctive feature of both guns was the rifled barrel, an idea developed and applied late in the fifteenth century by Caspar Zöllner, a Viennese gunsmith. (Some authorities give the name as Gaspard Zeller, and place him in Nuremburg during the sixteenth century.) From experience, huntsmen stalking boar and deer at close range in the German forests, and Alpine hunters out after mountain sheep and wild goats, had learned that the twist given to a ball shot from a rifled barrel increased

both its range and its accuracy. Conservatism and traditional military tactics seem to have prevented the acceptance of the rifled barrel in aristocratic and military circles, for the scant evidence of its use suggests that it was used primarily by common people.

In their new home in eastern Pennsylvania the migrant gunsmiths found immediate welcome. The first guns made by the newcomers were essentially counterparts of those used in Europe, but it was soon obvious that these were too heavy, of too large bore, badly sighted, hard to load, and too unwieldy for the prolonged trips of hunters and settlers into the wilderness. Conditions of the new environment, abetted by the complaints and suggestions of their backwoods patrons, compelled the gunsmiths to make numerous changes on the older models until they had produced a distinctive weapon that was light in weight, graceful of line, sparing of powder and lead, and deadly accurate in the hands of an experienced rifleman.

A typical Pennsylvania rifle weighed from seven to nine pounds, its overall length was a symmetrical fifty-five inches from muzzle to butt plate, and its .45 caliber ball could kill man or beast at 300 yards or "bark" a squirrel from the tallest tree. Known also, at a later time, as the "Kentucky" rifle because of the feats performed with it by Daniel Boone and other woodsmen in winning the land beyond the mountains, this superb weapon was the handiwork of several generations of Pennsylvania gunsmiths. Among the better known, in addition to Meylin, were Henry



Albright, Daniel Boyer, Matthew and Peter Roeser, Thomas Butler, Jacob Dechard, Peter and Henry Leman, Philip Lefevre, Henry Dreppard, numerous members of the William Henry family, and several Pannabeckers.

The first rifle shops appeared along streams in and around Lancaster, a location that sometimes has led to the more particular name of the "Lancaster" rifle. But as settlement moved westward and northward, gunsmiths plied their trade in Berks, Lebanon, Lehigh, Northampton, Snyder, and Union counties, and throughout the Cumberland Valley. Records show that Pennsylvania gunsmiths were also induced to migrate into several parts of New York colony, and at the time of the American Revolution Pennsylvania rifles were being made in

Maryland, Virginia, North Carolina, and Georgia. It is a question whether the German and Swiss makers ever held a monopoly of the business for any length of time, for English features are evident on some of the older rifles, and makers' names inscribed on many guns are unquestionably English, Welsh, and Scotch-Irish. Though Germanic in origin, the perfected Pennsylvania rifle was the product of the talents of ingenious and inventive artisans of several nationalities whose final handiwork scarcely resembled the parent types from which it had been developed.

Making a rifle in the eighteenth century was a slow, painstaking task requiring about a week's time. Its cost might vary from \$10 to \$50 or more depending upon the ornamentation and engraving given it, but when finished it had individual characteristics that distinguished it from all other guns. A name expressing pride or endearment was often given a gun by its owner — "Old Sure Fire," "Indian Lament," "Deer Killer" — thus imparting to this individually made weapon a personality.

Of the forty to fifty parts that went into its construction, the barrel was the most important and the one that required most skill. In the absence of boring machines capable of cutting a straight hole through an iron bar forty or more inches in length, the smith and his apprentice heated a bar of prescribed length and then bent and welded it around a rod somewhat smaller than the desired bore. This was tedious and could be aggravating if bar and rod were accidentally welded together. Superstition dictated that welding be done from the middle toward both ends in order to purge any devils that might be up to troublesome pranks. Annealing was done by burying the barrel in a fire of chestnut wood and allowing it to remain there until the ashes had cooled. It was now soft enough for fashioning the outside of the barrel into the conventional octagon shape; this was sometimes done with a drawknife, but more commonly by forging and the use of swedges, fullers, and flatters. A steel-edged bit cut the specified bore and this was then straightened by running a taut thread along the bottom of the bore; where the thread did not touch the bore the barrel was struck with a heavy lead hammer with just enough force to take out the kinks and not produce others.

The barrel was then placed on the rifling machine for cutting spiral grooves into the bore.

The most common rifling process cut seven square-shaped grooves; some rifles had more or fewer grooves, and the shapes varied, some being ratchet, concave, or "V" shaped. Widths and depths of the grooves also varied, as did the degree of twist, though one turn in forty-eight inches was something of a standard. Rough spots and blemishes in the grooves were then smoothed off with an abrasive material affixed to an iron rod, which was pushed back and forth through the bore. Final work on the barrel consisted of threading the breech with a handmade top, screwing the breech plug into position, and affixing front and rear sights; sights were fashioned by hand out of iron, brass, or German silver. The last step was browning or blacking



the barrel with cider vinegar or a combination of chemicals to prevent rusting. Of equal importance, it also lessened the chances of a rifleman betraying himself to game or enemy by reflected sunlight glinting along the barrel of his gun.

Locks for the rifles were sometimes made by the gunsmiths, but locksmiths who specialized in their making supplied many. The frequent appearance of the names "Ketland and Company" and "Bird and Company" stamped on locks indicates that these English firms were important sources of supply. The hammer of the lock was forged on the anvil and then filed into graceful, accurate shape; springs were fashioned from old swords, bayonets, and saws, and so carefully tempered in a charcoal forge that many of them today retain their elasticity. Nearly all flints were imported from England because of their superiority to any found locally. Triggers and parts of the trigger plate were made by hand, generally of simpler and sturdier design than those found on European guns. A second or "set" trigger that reduced trigger pull and muscle tremor was later added.

Favorite among woods for the gun stock was the curly maple, but walnut, cherry, and apple were also used. Supplies of stock blanks were kept on hand and seasoned over long periods of time. The channel into which the barrel fitted, the lock mortise, cheek piece, and patch box were carefully carved into the stock before it was finally sanded smooth, stained, and sometimes slightly charred to bring out the beauty of the grain. If not sufficiently decorative, a tiger-stripe decoration might be given the stock.

Early rifles were somewhat plain and devoid of ornament; later makes were richly decorated with brass, silver, and occasionally gold inlays, in the form of stars, crescents, birds, dogs, fish, rabbits, and other designs. Relief carvings with similar motifs are to be found on rifle butts and on cheek pieces. These were not solely decorative for in the mind of the owner they endowed his weapon and himself with mystical powers over the creatures pictured. In the patch box, a hole



cut into the right side of the stock and covered with an elaborate circular or oblong brass plate, were carried greased skin or linen patches to be wrapped around the balls when loading the rifle. Tokens, amulets, and pieces of paper bearing a cross or star and a magical incantation have been found in patch boxes. One saying of occult force that might turn a man's weapon into a "Freischutz" — a rifle that never fails — reads:

Load a gun with a bullet, cast on a crossroad on Christmas Eve, and it will hit the mark or bring down the game without fail.

Ramrods for loading and wiping were made of hickory and frequently striped in the manner of a candy stick or barber pole. Powder was carried in a translucent horn. Bullets, commonly ranging from .30 to .45 caliber, and lead, mold, and extra flints and patches went into the buckskin bag that hung from the hunter's shoulder.

When friction between her colonies and Great Britain reached the point where talk of independence was in the air, the following expression of confidence in the rightness of their cause and the effectiveness of their weapons was proclaimed by some citizens of Lancaster County:

Resolved from Hanover Township, Lancaster County, June 4, 1774; that in the event of Great Britain attempting to force unjust laws upon us by the strength of arms, our cause we leave to heaven and to our rifles.

Early in the conflict gunsmithing was placed under virtual control of the Continental Congress, which fixed the prices for guns and decreed that gunsmiths deliver all guns to the patriot army or

be branded as enemies and deprived of the tools of their trade. Pennsylvania rifle-makers helped materially to supply the nine companies of riflemen that were raised in this State and placed initially under the command of Colonel William Thompson, of Carlisle.

The defeat suffered by the riflemen under Benedict Arnold in the ill-fated attack on Quebec was avenged somewhat by the later victories at Saratoga and at King's Mountain, where the "Tomahawks" comprised a large part of the American forces. Major Patrick Ferguson, commander of loyalist American troops fighting for the British army, who was killed by a rifle bullet at King's Mountain, had had his unit experiment with a breech-loading rifle of his own invention at the battle of the Brandywine. He had urged its adoption by the British army, but the musket continued to be used commonly by all European armies until well into the nineteenth century.

The bloody repulse of the British at New Orleans early in January, 1815, by the riflemen of Tennessee and Kentucky under Andrew Jackson's command is another epic in the saga of this historic firearm. Westward across the plains, over the mountains, and beyond the sunsets it was carried by hunter, trader, prospector, and settler. Indians respected the "firestick" and learned to use it against the white intruders in many forays that chronicle the struggle for the West. To the south



and west our national domain was in part carved out by the use of the Pennsylvania-type rifle in the war with Mexico.

But the mid-century decades brought a number of changes in gunmaking that completely outmoded the older firearm. Some were converted into percussion rifles and used in the opening engagements of the Civil War. Today the flintlock is a museum piece or a collector's item. To see and handle it is to admire its beauty of line and ornament, and to remember with gratitude that in the hands of its hardy and resourceful owner it had helped win a continent, and freedom for a nation's people.